

A.2.6 SAMPLE RETURN LABORATORY INSTRUMENTS AND DATA ANALYSIS

1. Scope of Program

The ultimate goal of the Sample Return Laboratory Instrument and Data Analysis (SRLIDA) program is to maximize the scientific return from the samples provided by Discovery missions such as GENESIS and STARDUST (see further below), through development of laboratory instrumentation and advanced analytical techniques required for the complete analyses of the samples they return.

Proposals solicited under this program are expected to include those that seek to develop new analytical instrumentation or combinations of analytical instruments; or new components of analytical instruments, leading to significant improvements in the precision, resolution; or sensitivity of measurements compared to the existing state-of-the-art. Also of interest is the development of new analytical techniques for existing instrumentation that will push the limits of current technology, for example by elimination of analytical interferences or contamination problems. Acquisition of “off the shelf” state-of-the-art instruments will be supported mainly where critical for new development efforts, or in special cases where existing analytical capabilities at an investigator’s institution would combine with a new instrument to create a unique or highly advantageous analytical facility for the analysis of returned Discovery mission samples. In some instances, it will make sense to develop instrumentation and techniques that will be used by only a small number of investigators at a single institution. In other instances, the high cost of the instrument and its associated support structure may allow the development of only a limited number of such facilities that must be shared by the entire community. In all cases, cost sharing arrangements in the development of new instrumentation or techniques and evidence of a long-term institutional commitment to the analysis of returned samples will be viewed favorably in the selection process.

Finally, note that to enable the NASA Office of Space Science to properly evaluate the relevance of proposals submitted to its programs, as well as track its progress towards achieving its goals as mandated by the Government Performance Review Act (GPRA), all research supported by NASA’s programs must now demonstrate its relationship to NASA Goals and Research Focus Area’s (RFA’s) as stated in the latest version of its Strategic Plan (follow links from the Web site <http://spacescience.nasa.gov/>); see also the discussion in Section 1 of the *Summary of Solicitation* of this NRA. Therefore, all proposers to this program element are asked to state their perception of this relevance in terms of the Goals, Science Objectives, and RFA’s given in Table 3 found in the *Summary of Solicitation*. In particular, this program element is designed to help fulfill RFA’s 1(a), (b), and (c) and RFA 2(a) of Goal II of the Solar System Exploration science theme. The appropriate place for this statement of relevancy is in the introduction to the proposal’s “Scientific/Technical/Management” section (see Section 2.3.5 in the *Guidebook for Proposers*). The index numbers in this table may be used to identify a specific RFA, for example, “Goal I, Sun-Earth Connection Theme, RFA 1(c)” or “Goal II, Astronomical Search for Origins, RFA 3(b).”

2. Background

GENESIS is a mission designed to return samples of the solar wind to provide tight constraints on the chemical and isotopic composition of the primitive solar nebula; it was launched in the summer of 2001 and will return samples to Earth in 2004. Further information may be found from its homepage at URL <http://genesission.jpl.nasa.gov/>

STARDUST, a mission to return samples of a comet's coma, was successfully launched in 1999 and is scheduled to return its samples to Earth in 2006. It is anticipated that additional missions undertaken within the Discovery program will also return samples that pose unique analytical challenges. Further information may be found from its homepage at URL <http://stardust.jpl.nasa.gov/>

3. Programmatic Information

Total funding for the SRLIDA program is about \$6.8M in FY 2004 of which about \$4.3M is available for the support of new research. It is anticipated that this level will support 10-20 new selections.

As a change from past practices for this program, and in anticipation of a new master data base for OSS research awards that is being implemented on an evolving basis, Annual Progress Reports (alternatively called both "Progress" or "Status" Reports in previous research solicitations) for ongoing multiple-year awards are no longer required at the time that new proposals are due for this program element. Instead, a single *Annual Progress Report* will be due no later than 60 days in advance of the anniversary date of the award and is to be submitted as an attachment to an E-mail message to the Program Officer for this program. Note that as an additional change from past practice, a revised budget for any remaining years of an approved award is neither necessary nor expected; barring the development of unforeseen, extreme issues, the multiple year budget approved at the time of the original award is considered binding (see Section D.4 of Appendix D of the *NASA Guidebook for Proposers* for further details).

IMPORTANT INFORMATION

- As discussed in the *Summary of Solicitation* of this NRA, the Office of Space Science (OSS) now uses a unified set of instructions for the preparation and submission of proposals given in the document entitled *NASA Guidebook for Proposers Responding to NASA Research Announcement - 2003* (or *NASA Guidebook for Proposers* for short) that may be accessed by opening <http://research.hq.nasa.gov/> and linking through "Helpful References," or by direct access at

<http://www.hq.nasa.gov/office/procurement/nraguidebook/> (note that the updated 2003-edition of the *Guidebook* is used for this solicitation).

- Section 6 of this NRA's *Summary of Solicitation* contains the Web address relevant to the electronic submission of a Notice of Intent (NOI) to propose and a proposal's *Cover Page/Proposal Summary/Budget Summary*, as well as the mailing address for the submission of the hard copies of a proposal.

Questions about this Program Element may be directed to the Program Officer:

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